Lan Anh NGO QUY

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Education

Aug 2015–May 2019   **Swarthmore College - Computer Science and Mathematics**, GPA 3.44.
- Computer Science: *Software Engineering, Algorithms, Computer Vision, Bioinformatics, Data Structures, Introduction to Computer System*
- Mathematics: *Probability, Mathematical Statistics, Statistical Methods, Honors Multivariable Calculus, Honors Linear Algebra*

Honors and Awards   Richard L. Rubin Scholars, Swarthmore Summer Entrepreneurship Fellowship, NSF Summer Research Grant, CRA-W Grace Hopper Research Scholar, Rewriting the Code Scholar

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Experience

Sep 2017–Current   **Swarthmore College, Mathematics & Statistics Department**.
Undergraduate Research Assistant
- Analyzed structure in relationship of data and performance of model-assisted survey regression estimators with adaptive LASSO to predict transition in Land Use/Land Cover
- Built a Shiny App to conduct variable cross-walk among different datasets

May 2017–Aug 2017   **University of Pennsylvania, Himeslab**.
Undergraduate Research Assistant in Biomedical Informatics
- Built pipeline to collect relevant GEO datasets and conducted meta-analysis
- Extracted transcriptomic signatures of sepsis severity with model selection methods: lima package, LASSO, adaptive LASSO, LDA, sparse LDA, random forests
- Attended *Causal Inference and Big Data Summer Institute*

May 2017–Aug 2017   **Swarthmore College, Mathematics & Statistics Department**.
Undergraduate Research Assistant in Paleontology Statistics
- Developed statistical methods to account for dating uncertainty in paleontology
- Parallelized R code to run on 60 lab machines
- Presented poster at Joint Statistical Meetings 2017 in Baltimore

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Projects

Sept 2017–Current   **Virtual Bookshelves Android App, Shelved**.
Java/Hibernate/Volley/Spark REST API/MySQL
- Built model's API, created Android and Hibernate classes for MySQL database
- Implemented end-to-end functions to handle requests with Volley and Spark REST API
- Integrated zxing, OCR APIs to add books from ISBNs and pictures of book spines
- Developed application logic to allow lending books between users of similar geolocation

Oct 2017   **HackNY, Newsawareness Crossword Webapp**.
Python/Node.js/React.js/NLTK
- Implemented NLTK, NYTimes TopStories API to extract pairs of questions and hints
- Implemented crossword generator algorithm to build webapp in 2 days of hackathon

Mar 2017–May 2017   **Convolutional Neural Networks, Cervical Cancer Screening**.
Python/scikit-learn/keras/OpenCV/Numpy
- Segmented region-of-interest with maximum histogram algorithm, Gaussian Mixture Models, thresholding and morphological operations
- Experimented with tuning hyperparameters with Convolutional Neural Networks, Multi-layer Perceptron and Bag of (Visual) Words models for predicting cervical types

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Technical skills

Languages	Python	Java	C/C++	R	MATLAB	MySQL
	Numpy	scikit-learn	Hibernate	Spark REST API		
Environment/Libraries	OpenCV	Git	Linux	High-Performance Computing Clusters		
	Maven	Gradle	Node.js	React.js		